

"New liberal arts and science institutions in India and Singapore – the role of STEM education"

By Dr. Bryan E. Penprase

Frank P. Brackett Professor of Astronomy, Pomona College, Claremont CA
Visiting Professor of Science, Yale-NUS College, Singapore

Many new universities are being founded in India – these include Ashoka University, O.P. Jindal Global University, Shiv Nadar University, IIT Gandhinagar, Ahmedabad University, Azim Premji University, and the Indian Institute of Human Settlements. All of these institutions are being launched right now or have started in the past few years, and are offering innovative new forms of liberal arts and science education in India. In this talk I will provide a brief overview of the curriculum within their undergraduate programs, and then try to highlight unique aspects of their approaches to STEM education. An additional institution worth noting is the new Yale-NUS College in Singapore. With its strong basing in STEM throughout the common curriculum, all Yale-NUS College students receive two years of STEM courses. I will review the STEM curriculum development at Yale-NUS College in Singapore, and describe a few of its STEM courses in detail - the Integrated Science course for Science majors and the Foundations of Science course which includes "Grand Challenges" in interdisciplinary science for non science majors. In all of the institutions, the curriculum development aspires towards greater relevance and impact in the wider community and workplace, and I will underline the importance of science within the liberal arts curriculum for addressing problems within society and for preparing students for the rapidly changing workplace of the 21st century.